

Notice of Allowability	Application No.	Applicant(s)	
	10/066,072	SHAH, PETER JIVAN	
	Examiner	Art Unit	
	Charles Chow	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Petition 7/16/2006 & RCE 5/23/2006.
2. ☒ The allowed claim(s) is/are 1,3,8-11,13,14,17-20,²³⁻²⁴~~22-24~~,26-28,31 and 33-39.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>7/25/2006</u> . |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

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Detailed Action

1. This office action is for the Request for Continued Examination RCE, 5/23/2006 associated with the petition being granted 7/17/2006.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment has been given from attorney Howard Seo in a telephone interview on 7/25/2006.

Attorney has authorized examiner to amend claims 20, 22-23, as follows:

In claim 20, between line 3 & line 4, after "comprising:" before "downconverting,"

insert ----receiving a radio frequency (RF) signal at a selected RF, the received RF signal containing the desired signal and the jammer signal-----.

In claim 22, line 1, replace status identifier "previously presented" **with** ---Canceled---.

In claim 23, line 1, replace "22" **with** ----20----.

Allowable Subject Matter

3. The following is an examiner's statement of reasons for allowance:

Claims 1, 3, 8-11, 13-14, 17-20, 22-24, 26-28, 31, 33-39 are allowable over the prior art of record. The prior arts fail to teach the allowable features, singly, particularly, or in combination, or rendering obvious.

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Applicant has canceled claims 2, 4-7, 12, 15-16, 21, 25, 29-30, 32, and has amended claim independent claims with the allowable features containing the structure of feed forward path for removing the jammer signal from the desired signal [pages 9-11 of applicant amendment, 5/23/2006], & claim 31, 33-34 were indicated to be allowable in the previous office action, containing the structure of feed forward path also.

Reference **Cantwell-'750** teaches the interference cancellation by inputting the signal at intermediate frequency IF, which is different from the rf input from applicant, & the up converter 46 of Cantwell does not provides the jammer signal at rf frequency.

The cited prior art fail to teach the down mixer in a feed forward path configured to frequency convert at least a portion of the rf combined signal to substantially a base band signal;

a filter in the feed forward path coupled to the down mixer and configured to remove the desired signal from the base band signal and thereby provide a filtered signal representative of the jammer signal;

an up mixer in the feed forward path coupled to the filter and configured to frequency convert the filtered signal to an upconverted filtered signal **at substantially rf frequency of the jammer signal**;

an adder circuit to receive the combined signal and the up converted filtered signal **from the feed forward path** to thereby remove the jammer signal wherein the adder circuit comprises a positive and negative input, the combined signal being coupled to the positive input and the unconverted filtered signal being coupled to the negative input. as shown in the independent claims.

The dependent claims are also allowable due to their dependency upon the independent claims and having additional claimed features.

The closest patent to **Cantwell (US 5,410,750)** teaches a GPS receiver removes the interference signal from the desired signal combined with the interference & noise having the down converting at 23, Fig. 2-3], to base band [col. 3, lines 1-20]; the LPF 26, 34 for extracting interference [Fig. 3, col. 8, line 57 to col. 9, line15], the up converter 46 [Fig. 2/Fig. 4], the canceler 20 [Fig. 2], but fails to teach the above allowable features which contains **the interference cancellation by inputting the signal at intermediate frequency rf frequency, & the up converter provides the jammer signal at rf frequency.**

Tolson (GB 2,343,572) teaches the removing of the unwanted signal can be removed for the mobile phone in wireless communication system [abstract, Fig. 5, page 1 first paragraph; the mixer 6 coupled to the adder 5, Fig. 5], but fails to teach the above allowable features which contains **the interference cancellation by inputting the signal at intermediate frequency rf frequency, & the up converter provides the jammer signal at rf frequency.**

Other cited prior arts in below has been considered, but they fail to teach the above claimed features. They are as follows:

Takada (US 2002/0155,812 A1), Eaton et al. (US 4,287,475), Horikawa et al. (US 4,320,523), Kurth et al. (US 4,613,978), Tam et al. (US 4,673, 982).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

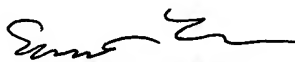
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Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (571) 272-7889. The examiner can normally be reached on 8:00am-5:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles Chow *cc*.

July 22, 2006.


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